

AMENDMENTS TO THE CLAIMS

1-4. Cancelled

5. (Currently Amended) An isolated nucleic acid molecule encoding an isolated PSMA derived peptide according to claim 1, wherein the peptide consists of an amino acid sequence of Formula I:



wherein

each X₁ is independently selected from leucine or methionine;

each X₂ is independently selected from valine or leucine; and,

each X is independently selected from any amino acid.

6. (Currently Amended) An isolated nucleic acid molecule encoding an isolated PSMA derived peptide according to claim 5 comprising:
- (a) a nucleic acid as shown in any one of SEQ ID NOS:12-17 wherein T can also be U;
 - (b) a nucleic acid sequence that is complementary to a nucleic acid sequence of (a);
 - (c) a nucleic acid sequence that has substantial sequence homology to a nucleic acid sequence of (a) or (b);
 - (d) a nucleic acid sequence that is an analog of a nucleic acid sequence of (a), (b), or (c); or
 - (e) a nucleic acid sequence that hybridizes to a nucleic acid sequence of (a), (b), (c), or (d) under stringent hybridization conditions.
7. (Currently Amended) An isolated nucleic acid molecule encoding an isolated PSMA derived peptide according to claim 5 ~~having a~~ wherein the sequence is selected from the group consisting of: SEQ ID NO:12; SEQ ID NO:13; SEQ ID NO:14; SEQ ID NO:15; SEQ ID NO:16; and SEQ ID NO:17.
8. (Currently Amended) An expression vector comprising a nucleic acid molecule of claim 5 and regulatory sequences suitable for expression of the nucleic acid molecule in a host cell.
9. A host cell transformed with an expression vector of claim 8.
- 10-22. Cancelled
23. (New) An isolated nucleic acid molecule of claim 5 wherein the nucleic acid sequence encodes 1 to 10 additional amino acid residues added to either end of the peptide.
24. (New) An isolated nucleic acid molecule of claim 6 wherein the nucleic acid sequence encodes 1 to 10 additional amino acid residues added to either end of the peptide.

25. (New) An isolated nucleic acid molecule of claim 7, wherein the nucleic acid sequence encodes 1 to 10 additional amino acid residues added to either end of the peptide.
26. (New) An isolated nucleic acid molecule of claim 5, wherein the nucleic acid sequence encodes an amino acid sequence shorter than that of the PMSA derived peptide.
27. (New) An isolated nucleic acid molecule of claim 6, wherein the nucleic acid sequence encodes an amino acid sequence shorter than that of the PMSA derived peptide.
28. (New) An isolated nucleic acid molecule of claim 7, wherein the nucleic acid sequence encodes an amino acid sequence shorter than that of the PMSA derived peptide.
29. (New) An isolated nucleic acid molecule of claim 5, wherein the nucleic acid sequence encodes a conservatively substituted PMSA derived peptide.
30. (New) An isolated nucleic acid molecule of claim 6, wherein the nucleic acid sequence encodes a conservatively substituted PMSA derived peptide.
31. (New) An isolated nucleic acid molecule of claim 7, wherein the nucleic acid sequence encodes a conservatively substituted PMSA derived peptide.
32. (New) An expression vector comprising a nucleic acid molecule of claim 5 and regulatory sequences suitable for expression of the nucleic acid molecule in a host cell.
33. (New) An expression vector comprising a nucleic acid molecule of claim 6 and regulatory sequences suitable for expression of the nucleic acid molecule in a host cell.
34. (New) An expression vector comprising a nucleic acid molecule of claim 7 and regulatory sequences suitable for expression of the nucleic acid molecule in a host cell.